AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior version, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) ~~In an electronic system including a plurality of components, a~~ A margin testing system for frequency margin testing of one or more ~~of said~~ components of an electronic system, the margin testing system comprising:

a baseboard management controller ~~internal to said electronic system~~; and

a digital frequency synthesizer ~~in communication~~ configured to communicate with said controller ~~and with one or more of said components, said frequency synthesizer~~ and generate ~~generating~~ one or more test frequencies for application to ~~said~~ one or more components in response to commands from said baseboard management controller ;

wherein said baseboard management controller is configured to monitor a response of said electronic system to said test frequencies.

2. (Currently Amended) The margin testing system of claim 1~~, further comprising:~~ wherein the baseboard management controller, in monitoring the response of said electronic system, is further configured ~~a diagnostics software executing~~ to collect and analyze data regarding a response of one or more selected components of said system to said test frequencies.

3. (Canceled)

4. (Currently Amended) The margin testing system of claim 1, further comprising:

a hardware monitor configured to communicate ~~in communication~~ with said controller and said frequency synthesizer to measure values of said one or more test frequencies and to transmit said measured values to said controller.

5. (Currently Amended) The margin testing system of claim 4, wherein said hardware monitor is further configured to communicate ~~communicates~~ with selected ones of said components to receive data regarding response of said components to said one or more test frequencies.

6. (Currently Amended) The margin testing system of claim 1, wherein said controller is further configured to transmit ~~transmits~~ command signals to said frequency synthesizer to cause the synthesizer to generate said one or more test frequencies.

7. (Canceled)

8. (Currently Amended) The margin testing system of claim [[7]]1, wherein said BMC implements Intelligent Platform Management Interface (IPMI) protocol.

9. (Currently Amended) The margin testing system of claim [[7]]1, further comprising: an I^2C-based bus for providing communication between said BMC and said frequency synthesizer.

10. (Original) The margin testing system of claim 9, wherein said I^2C-based bus comprises:
an IPMB bus.

11. (Original) The margin testing system of claim 1, wherein said frequency synthesizer receives an input reference clock signal, and in response to a command signal from said controller, generates an output clock signal as a multiple of said reference clock signal.

12. (Original) The margin testing system of claim 11, wherein said frequency synthesizer applies said output clock signal as a test frequency to said one or more components for frequency margin testing thereof.

13. (Original) The margin testing system of claim 1, wherein said frequency synthesizer generates each one of a plurality of test frequencies based on a pattern of input bits received from the controller.

14. (Original) The margin testing system of claim 1, wherein said controller initiates margin testing in response to commands from an external system.

15. (Original) The margin testing system of claim 14, wherein said external system comprises:

a console in communication with said controller via a serial bus.

16. (Original) The margin testing system of claim 14, wherein said external system comprises:

a remote computer in communication with said controller.

17. (Original) The margin testing system of claim 16, wherein said remote computer communicates with said controller via a network-based connection.

18. (Original) The margin testing system of claim 14, wherein said external system includes a scripting entity for generating commands for transmission to said controller.

19. (Original) The margin testing system of claim 1, wherein said one or more components receive nominal clock frequencies in the absence of said test frequencies.

20. (Currently Amended) A computer system, comprising:

a processor;

a plurality of components in communication with said processor for performing a plurality of tasks;

a baseboard management controller; and

a digital frequency synthesizer ~~in communication~~ configured to communicate with said baseboard management controller and generate ~~one or more of said components, said synthesizer generating~~ one or more test frequencies for application to selected ones of said one or more components for frequency margin testing thereof in response to commands from said controller; and

wherein said baseboard management controller is configured to monitor a response of said electronic system to said test frequencies.

21. (Canceled)

22. (Currently Amended) The computer system of claim [[21]]20, wherein said BMC implements an IPMI protocol.

23. (Original) The computer system of claim 20, further comprising:

an I^2C-based bus for providing communication between said BMC and said frequency synthesizer.

24. (Original) The computer system of claim 20, wherein said computer system is a server.

25. (Currently Amended) A method for frequency margin testing of one or more components of a computer system, ~~having~~ comprising ~~an internal~~ a baseboard management controller and a digital frequency synthesizer, in communication with said internal baseboard management controller, for applying at least one clock frequency to said components, comprising:

~~causing the controller to transmit~~ transmitting, by the baseband management controller one or more commands to said synthesizer to cause the synthesizer to generate one or more test frequencies for application to said components;

generating, by the synthesizer one or more test frequencies for application to said components; and

monitoring, by the baseband management controller, a response of said computer system to ~~each of~~ said test frequencies.

26. (Currently Amended) The method of claim 25, ~~further comprising:~~ ~~executing [[a]] diagnostics software to obtain~~ wherein monitoring, by the baseboard management controller a response of the system to each of said test frequencies further comprises:

collecting data regarding a response of one or more selected components of said system to said test frequencies; and

analyzing said collected data.

27. (Currently Amended) The method of claim 25, ~~further comprising: selecting said controller to be a BMC implementing~~ wherein said baseband management controller [56] implements an intelligent platform management interface (IPMI) protocol.

28. (Original) The method of claim 27, ~~further comprising:~~ wherein transmitting, by the baseband management controller one or more commands to said synthesizer, comprises:

transmitting said commands over ~~employing~~ an I^2C-based bus. ~~to provide communication between said BMC and said frequency synthesizer.~~

29. (Original) The method of claim 25, wherein the step of causing the controller to transmit commands to the synthesizer comprises:

transmitting a bit pattern from said controller to said frequency synthesizer to set an output of said synthesizer to a selected value based on said bit pattern.